

WHAT IS CLAIMED IS:

1. An interface device for performing data transmission with a further device connected to a network at  
5 any of a plurality of transmission rates that are regulated, the interface device comprising:

a transmission rate control circuit for changing its own operation speed when the transmission rate must be switched.

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2. The interface device of claim 1, wherein the switching of the transmission rate is executed when data transmission to the further device is required or when a request to switch to a different transmission rate is  
15 received from the further device.

3. The interface device of claim 1, wherein the transmission rate control circuit switches to a transmission rate enabling low-speed transmission during low-speed  
20 transmission and switches to a transmission rate enabling high-speed transmission when high-speed transmission is required.

4. The interface device of claim 1, wherein the  
25 transmission rate control circuit switches to a transmission rate enabling minimum speed transmission operation when starting operation for connection to the network or when data is not being transmitted.

30 5. The interface device of claim 1, further comprising a register for storing among the plurality of transmission rates, a transmission capacity of the interface itself, a transmission rate that is presently possible, and

a transmission rate to be switched to next.

6. The interface device of claim 1, wherein the register stores information for a mode for maintaining the present transmission rate or information for a mode for switching to a transmission rate enabling the minimum speed transmission operation.

7. The interface device of claim 6, wherein setting of the operation mode stored in the register is changeable by a bus reset.

8. A method for controlling an interface device for performing data transmission with other devices connected to a network at any of a plurality of transmission rates that are regulated, the method comprising:

changing operation speeds of each device and the interface device when switching to a high-speed transmission rate is required and each device included in a route to a transmission destination is compatible for the high-speed transmission.

9. The method for controlling an interface device of claim 8, further comprising:

determining whether the high-speed transmission is required or not after the high-speed transmission ends;

setting information for a mode for continuing high-speed transmission when the high-speed transmission is required, and setting information for a mode for switching to a transmission rate enabling minimum speed transmission operation when the high-speed transmission is not required.

10. The method for controlling an interface device of

claim 9 further comprising generating a bus reset after the high-speed transmission ends, and individually changing the respective setting of the operation modes of each device and the interface itself with the bus reset.